

Kan read a paper on Western New Guinea, and future exploration in Australia was discussed by Mr. David Lindsay. A memoir on the Niger lakes, by M. Paul Vuillot, was laid on the table, and one on explorations in Madagascar, by M. E. F. Gautier, was communicated in abstract. In the absence of M. Maistre, who was to have read a paper on the hydrographic system of the Shari and Logone, Señor Don Torres Campos gave an account of the climatology of the Portuguese and Spanish colonies on the west coast of Africa.

Section B—Presidents, M. Levasseur and Mr. Ravenstein—received the following papers:—On the construction of a terrestrial globe on the scale of 1 : 100,000, by Prof. E. Reclus; on the construction of globes, by Signor Cesare Pomba; the life and geographical works of Cassini de Thury, by M. Ludovic Drapeyron; an ethnographical map of Europe, by Herr V. von Haardt.

Prof. de Lapparent, Dr. John Murray, and Prof. Penck presided over Section C, where Prof. Palacky read a paper on the geographical element in evolution; Dr. E. Naumann, one on the fundamental lines of Anatolia and Central Asia; Dr. S. Passarge, a third on laterite and red earth in Africa and India; and Mr. Henry G. Bryant, a fourth on the most northern Eskimos. The last paper described observations made in North and South Greenland during the Peary Relief Expeditions.

On Friday (August 2) the President communicated a paper to the general meeting, by Baron A. E. Nordenskiöld, on ancient charts and sailing directions. Prof. Hermann Wagner read a paper on the origin of the mediæval Italian nautical charts, which gave some interesting results as to the length of the mediæval nautical mile. Mr. Yule Oldham dealt with the place of mediæval manuscript maps in the study of the history of geographical discovery, and, in the course of remarks on this paper, Mr. Batalha-Reis announced the discovery of an authentic fifteenth century portrait of Prince Henry the Navigator, at Lisbon. The Congress received a number of presentations, and discussed various proposals and resolutions.

Section B—Presidents, Señor Don Torres Campos and M. le Prof. Levasseur—dealt with spæliology (or the science of caverns) and mountain structure. A paper on the method of investigating caverns, by M. E. A. Martel, was read; M. F. Schrader described new instruments and methods used in surveying the Pyrenees; and Prof. Rein gave an account of observations in the Spanish Sierra Nevada.

Dr. E. Naumann occupied the chair in Section C, in which Prof. Penck read an important paper on the morphology and terminology of land forms, and communications were received from Mr. Batalha-Reis on the definition of geography, and Prof. Gerland on earthquake observations.

On Saturday only a general meeting was held. General Annenkoff read a paper on the importance of geography in connection with the present agricultural and economical crisis, and the rest of the time was occupied with resolutions and reports. The President dissolved the Congress in a short concluding address, and bid the foreign visitors a hearty farewell.

After such well-filled days the Congress wisely devoted most of its evenings to recreation. Only two exceptions were made. On Monday night Prof. Libbey showed by the lantern a large number of photographs made in the north of Greenland; and on Thursday Dr. H. R. Mill gave a demonstration in the form of a lecture on the English lakes.

#### THE BRITISH MEDICAL ASSOCIATION.

THE sixty-third annual meeting of the British Medical Association, held in London last week, was the largest in the history of the Association, and one of the greatest assemblies of medical men ever known. Twenty-two years ago the Association held its annual meeting in London, but whereas at that time the membership was only 1500, the number now exceeds 16,000. A large number of foreign medical men were present at the meeting, among them being Prof. Stokvis, Dr. W. W. Keen, Dr. Apostoli, Prof. Mosso, Dr. Fraenkel, Dr. Farkas, Prof. Pozzi, Dr. Ottolighi, Prof. Lazarewitch, Prof. von Ranke, Prof. Baginsky, Dr. Hermann Biggs, Dr. Ball, Dr. Koster, Prof. Gayet, Dr. Meyer, Prof. Panas, Prof. Fuchs, Prof. Bowditch, Dr. L. A. Nékám, Prof. Baunler, Prof. Martin, Dr. Cushine, Prof. Cordès, Prof. Ham-burgher, Prof. Marinesco, and Prof. Geikie. Sir T. Russell

Reynolds therefore presided over an assembly international in its main aims, and representing an Association as remarkable in its growth as it is high in its standing. It is only possible here to give a few extracts from some of the addresses and refer briefly to a part of the general work of the sections. For these reports we are indebted to the *British Medical Journal*, the organ of the Association. Sir T. Russell Reynolds took for the object of his address "the most striking fact of modern physiological, pathological, and therapeutical research, viz. the power of living things for both good and evil in the conservation of health and in the prevention or cure of disease." In the course of his remarks he said:—"The most important fact with regard to recent micro-biological research is the gradually-increasing appreciation of the fact that these lower forms of life exert, not necessarily mischievous, but, indeed, benignant influences on the human body, and that although the mode of their operation is not fully explained they take part in healthy processes, assisting normal functions, nay, indeed, it would seem sometimes producing them and warding off the malign effects of other influences to which we are habitually exposed. These bodies, to which we are indebted for this aid, operate partly by their chemic action and partly by what we must call a vital process, and by their cultivation outside the human body and their modification by passing through other organisms, can be made to exert a malign or a beneficial agency on man. It seems even in the range of possibility that at some time not very distant some other than 'the ancient mariner' may apply to them the far-reaching words of Coleridge, and exclaim—

O happy living things! no tongue  
Their beauty might declare;

\* \* \* \* \*

Sure my kind saint took pity on me,  
And I blessed them unaware.

"The third great revelation of the last twenty years is the wonderful protective and curative power of these living products. This, in a very wide sense, is not new. Of all the most powerful agents of destruction, the most violent have been derived from 'living' things; they are to be found in the animal and vegetable worlds, not in the mineral. In their most terrible malignity—such as in snake-bite, glanders, or hydrophobia—these need no human skill for their development; they are prepared in the laboratory of nature, and, alas! are only too ready to our hand. Next to these come the poisons of stinging things, and, after them, the more slowly operating and less deadly animal infections; some with indeed beneficial influence, as 'vaccinia'; others with local effects on the skin, but not often great disturbance of the general health.

"The vegetable kingdom can produce potent poisons, such as belladonna berries, aconite root and leaves, poppy juice, and the ignatium bean; but in order to render these more deadly the hand of man has to come in and prepare nicotine, strychnine, morphine, and the like; just as it may produce, from the mineral or quasi-mineral world, such potent agents as hydrocyanic acid, concentrated acids, and other dealers of destruction.

"The interest in these facts lies in the modern mode for their utilisation. The great potency of living products has led to very fanciful notions in therapeutics; and there have been those who, to cure diseases of organs, have given portions of the same but healthy organs of animals or of man or other animals. Again, the idea has been pronounced that even excreta were useful drugs, and that the diseased organs of man might effect a cure of those supposed to be afflicted in like manner.

"Curious as some of these details are, they are of real interest to us only as they lead up, through inoculation for small-pox, to our own Edward Jenner's discovery of vaccination, and then, through the researches of Pasteur, Lister, and Brown-Séquard, to our present state and plane of knowledge. It would seem now that there is scarcely any limit to what may be expected in the cure or prevention of disease; and the most striking of all phenomena is, to my mind, the probability of rendering an animal immune by the introduction into its organism of a healthy constituent of the body of another. This, if fully confirmed, will be the greatest veritable triumph of therapeutic and preventive medicine, instituted and guided by extended inquiry into comparative anatomy, physiology, and pathology. As in the human race or species there exist, as is well known, what may be termed 'idiosyncrasies'—by which is simply meant that as a matter of fact some people, and some people's families, escape epidemic diseases, whereas they are especially prone to take others to

which they may be exposed—so in the great economy of Nature certain groups of animals have been shown to exhibit no capacity for ‘taking,’ or for even being ‘inoculated’ with the poisons to which others are exposed, and from which they suffer, and that severely. It would seem, therefore, that use may be made of these animals, more or less naturally immune from certain maladies, and that their immunity may be partially conferred on man.

“Quite recently a communication of the greatest importance has been made on the rendering of animals immune against the venom of the cobra and other snakes, and on the antidotal properties of blood serum of immunised animals. This subject has occupied attention during the last six years, and we must all look forward with expectancy and hope to the possible and probable diminution of a great national and imperial calamity.

“The outcome of what I have been saying is this: that the scattered fragments of knowledge and ‘guesses at truth’ of many years have been gathered into a focus during the past twenty-five years; that the vegetable life, extracting from the mineral world the materials it needs for growth and production of powerful agencies for good in the form of food and medicines, and for evil in the form of poisons, has given itself up to the growth of animal life, with its much more complex organs, and for cure of ills once thought beyond the reach of human aid; but that, thanks to man’s scientific ardour and industry, it has again shown itself to be our servant, our helper, and our protector.

“These are not dreams of the study, they are facts of the laboratory and of daily life; and in using that word ‘life’ again, I must endeavour to emphasise still more forcibly upon you my urgent belief that it is to living agencies and their employment that we must look for help in the care of infancy, the conduct of education—moral, mental, and physical—the training up of character as well as of limbs; that it is the guidance of living functions, in the choice of living occupations, be they either of hard work or of amusement. It is to these we must appeal if we would see the *mens sana in corpore sano*; and then it will be to these that we may confidently look for help when the inroads of age or of disease are at hand, often to cure us of our trouble; or, if not, to give us rest and peace.

“It would be absurd in me, now and here, to attempt to say in what this potency of life exists. It is enough for us to recognise its existence, rejoice in its marvellous energy, and anticipate still more from our investigations of its modes of action, but I cannot help feeling that, however far we go in our research into the arcana of nature, one of our ablest neurologists, who has gone very far, is right when he says: ‘Search while you may with eyes, however aided and however earnest, that which we call “life,” eludes our search and resists our efforts. We must be content with what knowledge we can gain, secure or insecure, and while using it as best we may, should realise in all humility how much there is we cannot know, and yet we cannot doubt.’”

An address in medicine was delivered by Sir William Broadbent, who traced the growth of the art and science of medicine. He pointed out that of the infancy of medicine properly speaking nothing is known.

Individual acts of healing are related in the Old Testament, and the treatment of wounds is described by Homer; the Chinese from remote antiquity had a system of medicine, and medicine has a place in the *Vedas*; but in the works of Hippocrates, who was born about 460 B.C., the earliest medical literature which has been handed down, the theory and practice of the art of healing is shown in a considerably advanced stage of development. The development of medicine from that time was sketched by Sir W. Broadbent in an admirable address, and the great advances made during the present century in the many departments of his subject were touched upon. In one of the sections, the excellence and defects of modern therapeutics were passed in review as follows:—

“We have still to ask, What is the bearing of all these advances of knowledge on therapeutics, which, after all, is the object of our lives?

“Until the last few years it has not been easy to answer this question by instances of any very extensive applications of physiology to the treatment of disease, and morbid anatomy was at one time a stumbling-block in the way of therapeutic effort. The pathologist, pointing to an excavated lung or cirrhotic liver, would ask the physician what he could expect to do with

drugs against such conditions. But that stage has passed away, and I will not mock your intelligence by other illustrations beyond those just given of therapeutic applications of physiological and pathological knowledge, or by arguing that all knowledge of normal processes aids in the comprehension of morbid processes, and that we are in a better position to combat disease when we thoroughly understand its causation and initiation, and follow mentally its development, course, and tendencies.

“Given the faculty of observation, the insight which penetrates the meaning of the phenomena, the analytical and synthetical powers by which a diagnosis is constructed, the ready adaptation of means to a well-defined end, and the firmness of character required to deal with the frailties of human nature, and the best physiologist will make the best pathologist and the best pathologist the best physician.

“As regards the remedies at our command, they are only too numerous. Recourse to a great variety of drugs is fatal to exact knowledge of their effects and to precision in their use, but new ones are added every day for the benefit chiefly of those who do not know how to employ the old ones. There have, however, been recent acquisitions of extreme value, heavily discounted, unfortunately, in the case of some by the mischief done through their indiscriminate use: the antiseptic group, the chloral sulphonal group, the salicylates and salicine, the phenacetins and antipyrin class, coca and cocaine. What makes some of these, moreover, far more important and interesting is the fact that their physiological action has been inferred from their chemical constitution.

“A fact which brings practical therapeutics into near relation with physiology and pathology is that the active principles of all drugs are isolated, their chemical composition is ascertained, and their physiological action investigated. Pharmacology, in effect, has become a branch of experimental physiology, and the immediate effect of remedies is known with a completeness and accuracy heretofore undreamt of. All this is working towards a more intelligent employment of drugs, and leads towards the goal of all the efforts to bring therapeutics within the circle of the sciences. This goal is that we should know not only the effects of remedies, but how these effects are produced. This is in the last resort a question of chemistry. As I have said before, all vital actions are attended with molecular or chemical changes; are, from one point of view, chemical action, and come under the laws of the correlation of force and conservation of energy; so, therefore, are the physiological and therapeutical action of drugs, and obviously the key to the latter is to be found in the chemistry of vital processes. Therapeutics, to become scientific, is only waiting for answers to the questions which she puts to chemistry. Why are sodium salts so much more abundant than potassium salts in the blood, and why are the former almost confined to the liquor sanguinis, and the latter to the corpuscles? We must assume that albuminoid proteids have an affinity for sodium, and the globulins for potassium. With the answer to this is bound up the secret of the necessity of sodium, potassium, and calcium salts to anabolic and catabolic operations, in which they take no traceable part, and of the presence of iron in the blood corpuscles.

“Why, again, in the case of substances apparently so similar as potassium and sodium salts will the former, if injected into a vein, even in small quantity, paralyse the heart and destroy life, while we see pints of normal saline solution thrown into the circulation with none but good results? How does prussic acid—the simplest in composition and constitution of all organic substances—prove fatal with such fearful promptitude by its presence in infinitesimal proportion in the blood? How again does morphine suspend the activity of the nerve centres? Chemists must admit that the poisonous effects of prussic acid and morphine can only be due to some molecular change in these substances; they know that if the deadly cyanogen is so tied up that its component atoms cannot fly apart it is innocuous, and that a very slight change in the chemical constitution of the morphine molecule entirely alters its effect; it is an almost irresistible inference from the doctrine of conservation of energy that the change in the molecule, say of the morphine, must be equal and opposite to the molecular change in the nerve cells which it arrests. It seems to me, therefore, that we have in the chemical constitution of the morphine molecule a clue to the character of the chemical change by which nerve action takes place and to the quantivalence of nerve energy.

“What then is our position to-day in respect of the three points which we have been following—the recognition of disease, the

knowledge of remedies, and the ideas which govern the employment of remedies in the treatment of disease?

"The basis of therapeutics is diagnosis, the grasp of the actual condition underlying the symptoms or phenomena, and the greater our command of powerful remedies and the more precise our knowledge of their effects and of the mode in which these effects are produced, the more important does accuracy in diagnosis become.

"A diagnosis, to be real, implies not only the recognition of the disease which may be present and an accurate appreciation of the morbid changes which may have taken place in various organs. It embraces a knowledge of the nature and intensity of the pathological processes which have been and are in operation, and of the causes which set them going, and also of the results to which they tend. A further element, moreover, enters into the consideration; an estimate, by the aspect of the patient, by the pulse and temperature, and by other subjective and objective indications, of the impression made on the system, and of the resistance which it is capable of to the lethal tendencies of the disease.

"Year by year we see improvement in this respect; not only that hospital physicians and teachers endeavour to carry diagnosis to a greater pitch of accuracy and a higher point of refinement than ever before, but that the entire body of medical men are trained by improved education and systematic clinical teaching to appreciate and to practise careful diagnosis in their daily work.

"Diagnosis, we may say, has reached an extraordinary degree of advancement. There are, no doubt, still new fields to conquer, but in the recognition of diseases, local and general, there is not much which seriously concerns the human race which remains to be done. The same degree of knowledge, however, does not extend to morbid processes. Our comprehension of the significance and essential character of inflammation is by no means complete and satisfactory. The part which fever plays and the place which it holds among the phenomena of disease is far from being fully understood. It cannot have been intended by nature for the destruction of the subject, and we can see distinctly that in some cases it forms part of the defensive operations; possibly, indeed, its general tendency is defensive, by promoting the production of phagocytes, or possibly a certain elevation of the temperature may be fatal to maleficent organisms which have taken possession of the blood or tissues. We are not certain, indeed, whether in pyrexia the heat-producing oxidation in the structures receives its stimulus from, or takes place at the bidding of, the nervous centres, or, on the other hand, is due to enfeeblement of the restraint which they normally exercise over it, or whether it defies control by the thermo-toxic nervous centres."

An address in surgery was delivered by Mr. Jonathan Hutchinson, who gave a brief retrospect of the surgery of the past, interspersed with a few comments as to what may be hoped for the future.

Prof. Schäfer delivered an address in Physiology, taking for his subject "Internal Secretions." After describing various glands and secretions and their method of interaction, he said: The general results to which we are led point very strongly in favour of the notion that internal secretions are yielded both by the ductless glands and by what are usually known as the true secreting glands, and it is obvious that such internal secretions may be of no less importance than the better-recognised functions of the external secreting glands. That a failure of one or other of these internal secretions has to be definitely reckoned with by the physician there can be no doubt whatever, while at the same time the therapist will be able to avail himself of the active principles which the internally secreting organs afford, and in certain cases to use their extracts in place of the hitherto more commonly employed vegetable medicaments.

The work of the different sections covered a wide range, and much of it relates purely to medical practice. It will be sufficient, therefore, for us to indicate by the following summary the general character of a few of the more important papers and discussions reported in the *British Medical Journal*.

#### SECTION OF MEDICINE.

The President, Dr. Pavy, opened the proceedings in this Section by an address, in which he described the progress in medicine due to the discovery of the casual relationship existing between micro-organisms and certain diseases, enlarging upon the immense effect that this had had upon the question of treat-

ment, and upon the control that could be exercised upon the spread of infectious diseases. He briefly touched upon the serum treatment of diphtheria. Dr. Sidney Martin then introduced the discussion on diphtheria and its treatment by the antitoxin. Dr. Martin commenced by stating that there had always been two schools of therapeutists with regard to the treatment of diphtheria, the one trying to discover some local application which would loosen or remove membrane in the throat, and the other to provide a remedy that would act upon the general symptoms of the disease. The want of success in the past made it essential, in his opinion, to examine most carefully into any new method of treatment suggested, and to submit it to a most rigid scientific inquiry before accepting it. The antitoxin treatment, he stated, had been studied with the greatest care, and its recommendation was based upon the results of a consideration of the pathology of the disease.

Prof. von Ranke (Munich) stated that whilst in 1892 he had in his hospital a mortality of 56.2 per cent., in 1893 of 46 per cent., and in 1894 up to September 24, when he had commenced the serum treatment, one of 57 per cent., since that time his death-rate had been reduced to 17.7 per cent. He further considered that not only was the reduced death-rate due to the injection of antitoxin, but that the course of the disease was favourably influenced in the most striking manner. Prof. Baginsky, of the Empress Frederick Hospital, Berlin, though not speaking with the high enthusiasm of Dr. Ranke, yet gave equally startling figures, stating that whilst the mortality in the four years previous to 1895 had been on the average 41 per cent. under the old system of treatment, during the last year, under the serum treatment, it had been reduced to 15.6 per cent. Dr. Sims Woodhead spoke briefly upon the importance of using large doses of serum, and concluded by quoting some Paris statistics which were highly favourable. Dr. Hermann Biggs (New York) then gave a most interesting account of the immunising effect of the serum, quoting figures to show that in almost all cases the immunising power of the serum extends to a period of thirty days. He further stated that out of 800 healthy children who had received injections, he had not seen a single case in which any harm had resulted from the treatment.

#### SECTION OF SURGERY.

Sir William MacCormac, President of the Section of Surgery, took for the subject of his address "Some Points of Interest in Connection with the Surgery of War." He came to the following conclusion:—

"It would appear probable that in a future war many of the wounds produced by the new projectile will be surgically less severe, and prove amenable to effective surgical treatment. Probably also the number of severe injuries will be very great when we consider the enormous range of the new weapon and the penetrating power of the projectile, which enables it to traverse the bodies of two or three individuals in line, including bones, and to inflict serious or fatal wounds at a distance of 3000 or 4000 yards. It is impossible to say what the proportion between these two is likely to be. At near ranges the explosive effects will be much the same as before; but at long range the narrow bullet track, the small external wounds, which often approach the subcutaneous in character, and the moderate degree of comminution and fissuring of the bone will be surgically advantageous. These will form the bulk of the gunshot injuries of the future, for it would seem impossible with magazine quick-firing rifles to maintain a contest at close quarters without speedy mutual annihilation.

"We may take it for granted that the number of wounded, in proportion to the numbers engaged and actually under fire, will be greater than before. The supply of ammunition will be larger, the facility for its discharge greater, and smokeless powder will increase accuracy of aim.

"I think we are justified in believing, although there is high authority for a contrary opinion, that the next great war will be more destructive to human life, 'bloodier,' in fact, than any of its predecessors; and that the number of injuries, and in many cases the severity of the injury, will be largely increased. But very many cases will remain less severe in character, more capable of successful treatment, and less likely to entail future disablement, while improved sanitation and antiseptic methods will enormously increase the proportion of recoveries.

"It is the unceasing effort of modern surgery to provide antiseptic protection in an effective form in time of war; and I may be permitted to recall that the medical organisation during our

last war in Egypt was so complete in this respect that not a single case of infective wound disease occurred during the whole campaign.

"As a temporary dressing, some form of antiseptic occlusion will prove most generally applicable. The small wounds of entrance and exit render this plan comparatively easy of application, and the chances of septic infection will be diminished by the less frequent necessity for probing or searching for a lodged projectile, and, indeed, the ascertained presence of the bullet is no sufficient indication *per se* to attempt its removal. The eye, rather than the hand, is the best thing to employ at a first dressing station, as Fischer has well said.

"If only asepticity can be ensured—and this is the great difficulty—we may expect a large measure of success to follow the treatment of wounds of the soft parts, many forms of fracture—notably also wounds of the joints, and very especially wounds of the lung."

#### SECTION OF PUBLIC MEDICINE.

The proceedings in this Section were opened by Mr. Ernest Hart, who delivered an address on "Public Health Legislation and the Needs of India." Mr. Hart strongly criticised the whole system of the sanitary service and the medical service of India, and held that it needs to be overhauled and reconstituted.

"What is urgently needed," he said, "is a Royal Commission or strong Departmental Committee to inquire into the whole matter, and to institute a radical change. For at present India is decimated by preventable diseases; the health of our troops is ruined by the same causes. With us lies the reproach of nursing and fostering cholera in what is called its endemic home—a purely ignorant and silly phrase. Until some great change is made in the whole system of the present administration, the great sanitary needs of India will never be met."

#### SECTION OF PHARMACOLOGY AND THERAPEUTICS.

In this Section, under the presidency of Sir William Roberts, there was a discussion on Sero-Therapeutics, embracing the application of serum treatment, not only to the acute infective disorders, but also to the cure of bites from venomous serpents. In his introductory remarks the President drew attention to a hitherto much neglected alkaloid of opium, generally known as "narcotine," but more properly termed "anarcotine," from the complete absence of narcotic properties. A large amount of evidence was available which seemed to show that this alkaloid has very valuable antiperiodic powers, which, should further investigation corroborate, will render it a valuable remedy in certain cases of malaria in which quinine entirely fails. The discussion on Sero-therapeutics was opened by Dr. Klein in a paper on the nature of Antitoxin. He drew attention particularly to the differences in action between a protective serum obtained from animals immunised by injections of filtered diphtheria toxin, and by those treated with living cultures of the diphtheria bacillus. He had found that while the first had an extremely high neutralising power on the chemical poison separated from the bacilli, it had not nearly so marked an immunising power. On the other hand, an antitoxin prepared with the aid of living cultures, while it was less active than the other in neutralising toxins, was far more efficacious as an immunising agent. He also gave brief hints on the advantage of using a dried serum in place of the usual liquid form, and stated that the use of the former was far less likely to be followed by the appearance of rashes and other complications.

#### OTHER SECTIONS.

Dr. Mickle, President of the Section of Psychology, delivered an address on the abnormalities occurring in the form and arrangement of brain convolutions. The Section of Physiology was opened by Dr. Ferrier with an address on the relations of physiology and medicine. In the Section of Anatomy and Histology, Mr. Henry Morris, in his presidential address, gave a brief history of the rise of artistic illustration in its relation to anatomical teaching.

The presidential address in the Section of Pathology and Bacteriology was delivered by Dr. Samuel Wilks, F.R.S. In the course of his remarks he drew attention to the fact that every pathological process is accompanied by a corresponding reparative process, and lamented that sufficient regard had not been paid to the distinction between these constructive and destructive processes. To study these for the sake of discovering the several influences exerted in the production of each is of great practical

import; and a consideration of them also shows that pathology is governed by the same laws as those which exist in every other department of nature, and therefore must take its place on an equivalent footing with the other sciences.

Mr. H. Power, the President of the Section of Ophthalmology, remarked on the work that had been done by the founders of ophthalmology in the past, and the gradual formation of a scientific branch of medicine, of which the methods of diagnosis and treatment were fortunate in being founded on pure science. Owing to its intimate relations with the other branches of medicine and surgery there was no danger of its separating from the parent stem and becoming barren; at the same time he advocated a sounder education in the sciences on which ophthalmology was established, such as mathematics and physics, being required of all candidates for ophthalmic posts in hospitals.

#### BACTERIOLOGICAL EXHIBITS.

A collection of exhibits brought together to illustrate points of general pathological interest was on view during the meeting. Bacteriological exhibits made up one of the departments of the temporary museum thus formed. Dr. Cautley exhibited cultures and coverglass preparations of an organism found in seven out of eight cases of the affection usually termed influenza cold. It was of special interest and importance as showing, first, that the disease in question is microbial in origin, thus explaining the frequency with which such colds affect all the members of a household; secondly, that it possesses a certain relationship to epidemic influenza. The biological characteristics indicated that the organism is allied to the organism of epidemic influenza. Morphologically the organism presented a further point of interest, many club-shaped forms, similar to those of the diphtheria bacillus, appearing in the specimens. Some excellent photographs of the specimens accompanied the exhibit, and were taken by Mr. E. C. Bousfield.

The cultivations from the laboratories of the Conjoint Board of the Royal College of Physicians, London, and of the Royal College of Surgeons, England, were permanently fixed by formic aldehyde. This substance arrests the growth almost at once, and after the lapse of two or three days kills the bacilli. Various organisms in culture illustrated this method, and showed its applicability to museum and other specimens.

Drs. MacFadyen and Hewlett exhibited from the Bacteriological Department of the British Institute of Preventive Medicine a complete series of cultures of the most important micro-organisms, and Mr. Joseph Lunt exhibited living cultures of various water organisms isolated from drinking water, sewage, air, &c., together with some interesting instances of enzymes filtered from both cultures of various organisms, possessing liquefying and other properties similar to those possessed by the parent organisms.

Dr. Klein showed a large number of photographic lantern slides representing nearly all known pathogenic bacteria, and, amongst others, duplicates of Mr. Bousfield's work for the influenza and cholera reports, the latter especially showing vibrios with their flagella with wonderful clearness.

#### SCIENCE IN THE MAGAZINES.

FOUR short papers on Huxley appear in the *Fortnightly Review*. The Hon. G. C. Brodrick, Warden of Merton College, Oxford, records some personal reminiscences of the man whose loss is so keenly felt. It appears that about thirty-seven years ago, when a Linacre Professorship of Physiology, coupled with Human and Comparative Anatomy, was founded, Huxley meditated becoming a candidate for the chair. Before the election took place, however; he made up his mind not to seek the office, which was awarded to the late Prof. Rolleston. The reason he assigned was that his opinions were too little in harmony with those prevalent at Oxford. This opinion he again gave, but with diminished emphasis, when he was asked, twenty years later, to accept the chair, upon the death of Prof. Rolleston. His work for the advancement of anthropology forms the subject of a note by Prof. E. B. Tylor. "Close upon the end of his life," says Prof. Tylor, "Huxley did his best to promote the scheme to make anthropology at Oxford an examination subject for an Honours degree in Natural Science. Writing to me, he said, 'If I know anything about the matter, anthro-